

Chapter 16

Goldstein and Stephens Revisited and Extended to a Telehealth Model of Hearing Aid Optimization

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ABSTRACT

Tele-audiology practice is sometimes portrayed or practiced as an extension of conventional audiology practice, but in reality, it should be considered as a more flexible and innovative way of delivering hearing healthcare. It is likely to continue expanding beyond the bounds of conventional audiology into the future. This has far-reaching implications for clinical utility and client satisfaction. One important consequence is that tele-audiology is changing the way individuals are approaching their hearing health. In a connected economy, people are becoming more empowered in managing their health and are metamorphosing from patients, whose only option is to visit a clinical facility, to consumers with choices. There will still be a need for conventional audiology practices to manage more complex cases where medical diagnosis and intervention are involved, or where clients prefer face-to-face service, but this will be as part of a hearing health ecosystem where the consumer makes the choices drawing on a range of influencing factors. There is now substantial evidence from large-scale studies and clinical data that aspects of tele-audiology are prevalent within different service models and that the outcomes are at least as beneficial to the recipients as the outcomes from delivery of conventional audiology services in conventional audiology clinics. In addition to potential improvements to client outcomes, tele-audiology is already starting to improve access to hearing health services, reduce costs, and deliver social and economic benefits to society.

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INTRODUCTION

Tele-audiology is a rapidly developing field, particularly as hearing aid manufacturers bring various e-solutions onto the market. A search of the PubMed database for items containing the word “tele-audiology” in any field yielded only seventeen references and one editorial note. A search for “tele-audiology” in Google Scholar yielded 531 results in total and 110 publications since 2016, including one comprehensive book (Rushbrook and Houston, 2016), which received positive reviews. There are also two comprehensive research reviews by Krumm and Syms (2011) and by Swanepoel and Hall (2010), and a more recent review specifically relating to auditory rehabilitation by Tao et al. in 2018. The high ratio of the number of online references in Google Scholar to the listing of peer-reviewed studies in PubMed is symptomatic of the fast-moving fields of tele-audiology, telehealth, and telemedicine, and the fact that peer-reviewed studies are lagging far behind the actual practice of tele-audiology and telemedicine in both public and private healthcare. In this chapter, we have reviewed some of the non-peer reviewed information about tele-audiology from clinical and client perspectives in addition to peer-reviewed research papers, in order to provide an up-to-date and forward-looking perspective of tele-audiology.

Tele-audiology is a subset of telehealth, and developments should be considered in the context of the changes that are sweeping through medicine and healthcare generally. Krupinski (2015) described *telehealth*, the American Medical Association (AMA) has not only promoted the use of telemedicine, but it is also advocating for the formalized training of physicians in telemedicine (The Hearing Review, 2016).

This chapter presents experience with a blended model of care, based on the adaptation of an existing service model of Auditory Enablement.

BACKGROUND

Telehealth is well established in some countries; for example, in Canada, in order to overcome the barriers of physical access, such as remoteness or restricted mobility. Telehealth is having a major impact on access to services, on equity of service provision, on quality of outcomes, and is increasing productivity (Canadian Agency for Drugs and Technologies in Health, 2016). A Canadian report is one of many that show that the benefits arising from telehealth extend far beyond the facilitation of client/clinician communication at a distance. The report includes reference to over forty different medical and allied health disciplines using telehealth (but tele-audiology is not among them). Developments in tele-audiology aim to deliver similar impact and benefits to clients. In Australia, a National strategy is under development and is documented (Australian Digital Health Strategy), and queries the time full uptake will require, assuming that digital health is the path forward. There is a certain tension between the speed of adoption and the relatively conservative approach in medicine towards change. As Silicon Valley physician and tech entrepreneur Jordan Shlain recently put it, *the techie attitude of move fast and break things comes up against the medical attitude of move slowly and don't kill people*. (Vize, 2017). We are at a unique juxtaposition of technology and healthcare, requiring health professionals to extend their skill set and be open to new ways of working: a change that will increase both access to services and consumer empowerment. There is international consensus that telehealth is ready for growth and will deliver widespread benefits to clinicians, clients and national healthcare programs, if formally incorporated into public and private models of health care. This forward thinking also applies to tele-audiology. Much of the technology and infrastructure developed for telehealth applications can be applied directly to tele-audiology.

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